Province of the
EASTERN CAPE
DEPARTMENT OF EDUCATION

NATIONAL SENIOR CERTIFICATE
NASIONALE SENIOR SERTIFIKAAT

GRADE 12
GRAAD 12

ENGINEERING GRAPHICS AND DESIGN P1
INGENIEURSGRAFIKA EN -ONTWERP V1

SEPTEMBER 2026
PREPARATORY EXAMINATION / VOORBEREIDINGSEKSAMEN
MARKING GUIDELINE / NASIENRIGLYN

MARKS/PUNTE: 200

This marking guideline consists of 7 pages.
Hierdie nasienriglyn bestaan uit 7 bladsye.

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PAPER 1
QUESTION 1: ANALYTICAL
Gr. 12
SEPTEMBER 2026
MARKING GUIDELINE

VRAESTEL 1
VRAAG 1: ANALITIES
Gr. 12
SEPTEMBER 2026
NASIENRIGLYN

QUESTION 1 ANSWERS		
1	MR L VAN NIEKERK	1
2	2026-01-27	1
3	INDICATE THE SOLAR PANEL CAPASITY	1
4	RED	1
5	5 000 L WATER TANK	1
6	WATER STORAGE TANK	1
7	BUILDING IS TO BE DEMOLISHED/CLEARED/REMOVED	1
8	THE PROPOSED NEW WORKER HOUSE 1 IS OVER THE BUILDING LINE	1
9	MANHOLE	1
10	625 BIRDS	1
11	2500 MM = 2,5 M	2
12	WEST VIEW	2
13	16 PANELS x 0,55 kW = 8,8 kW	2
14	**CALCULATION BELOW**	3
15	**CALCULATION BELOW**	3
16	**CALCULATION BELOW**	3
17	**SKETCH BELOW**	4
	TOTAL	**29**

VRAAG 1 ANTWOORDE		
1	MNR. L. VAN NIEKERK	1
2	2026-01-27	1
3	DUI DIE SONPANEELKAPASITEIT AAN	1
4	ROOI	1
5	5 000 L WATER TENK	1
6	WATEROPGAARTENK	1
7	GEBOU MOET VERWYDER/WEGGEVAT WORD	1
8	DIE VOORGESTELDE WERKERSHUIS 1 IS OOR DIE BOULYN	1
9	MANGAT	1
10	625 HOENDERS	1
11	2500 MM = 2,5 M	2
12	WESTELIKE AANSIG	2
13	16 PANELS x 0,55 kW = 8,8 kW	2
14	**BEREKENINGE ONDER**	3
15	**BEREKENINGE ONDER**	3
16	**BEREKENINGE ONDER**	3
17	**SKETS ONDER**	4
	TOTAAL	**29**

QUESTION/VRAAG 14

5,35 m + 5 m +19,45 m +0,75 m
= **30,55 m**

calculation: (+) berekening: (+) 1
correct values korrekte waardes 1
correct answer korrekte antwoord 1
correct unit korrekte eenheid

[3]

QUESTION/VRAAG 15

Show all calculations/Toon alle berekeninge

calculation: (+)
correct values
correct answer
correct unit

2(61,7 m) + 2(75,4 m)
= 123,4 + 150,8
= **274, 2 m**

berekening: (+)
korrekte waardes
korrekte antwoord
korrekte eenheid

[3]

QUESTION/VRAAG 16

Toon alle berekeninge / Show all calculations

31,8 m x 38,68 m = 1229,07 m²

31,8 m - 15,35 m = 16,45 m
17,25 m x 16,45 m = 283,7625 m²

$\frac{283,7625 \text{ m}^2}{2} = 141,88125 \text{ m}^2$

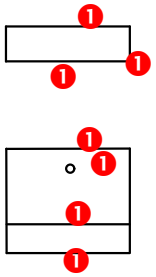
Multiply formula
correct answer
correct unit **m²**

Vermenigvuldig formule
korrekte antwoord
korrekte eenheid **m²**

1229,07 m² - 141,88125 m²
= **1087,18875 m²**
= **1087,19 m²**

[3]

QUESTION/VRAAG 17



Vryhand
Freehand

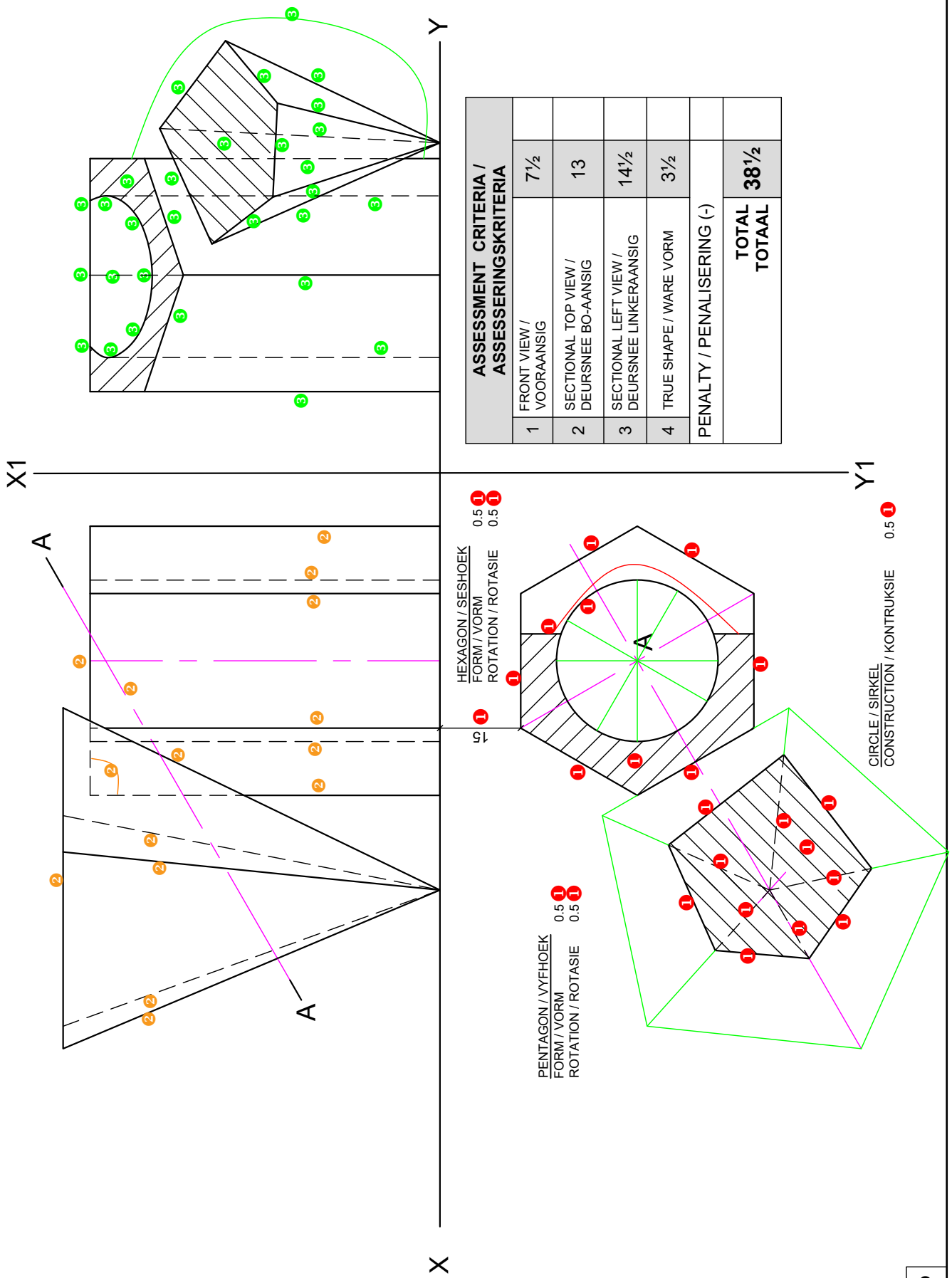
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PAPER 1
QUESTION 2: SOLID GEOMETRY
Gr. 12
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VRAESTEL 1
VRAAG 1: VASTE LIGGAME
Gr. 12
SEPTEMBER 2026
NASIENRIGLYN



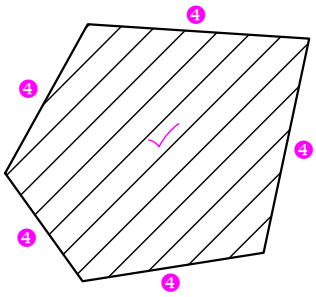
ASSESSMENT CRITERIA / ASSESSERINGSKRITERIA		
1	FRONT VIEW / VOORAANSIG	7½
2	SECTIONAL TOP VIEW / DEURSNEE BO-AANSIG	13
3	SECTIONAL LEFT VIEW / DEURSNEE LINKERAANSIG	14½
4	TRUE SHAPE / WARE VORM	3½
	PENALTY / PENALISERING (-)	
	TOTAL / TOTAAL	38½

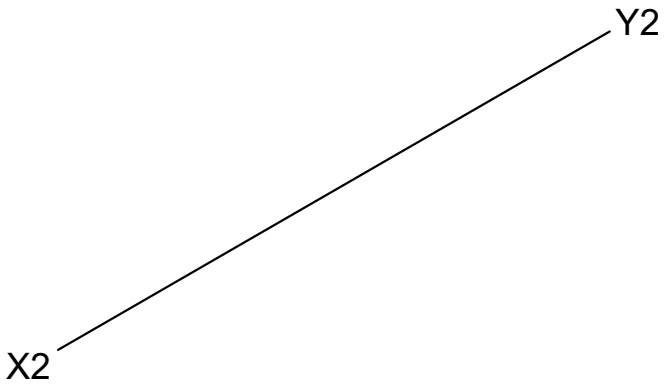
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VRAESTEL 1
VRAAG 1: VASTE LIGGAME
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ASSESSMENT CRITERIA / ASSESSERINGSKRITERIA			
1	FRONT VIEW / VOORAANSIG	7½	
2	SECTIONAL TOP VIEW / DEURSNEE BO-AANSIG	13	
3	SECTIONAL LEFT VIEW / DEURSNEE LINKERAANSIG	14½	
4	TRUE SHAPE / WARE VORM	3½	
PENALTY / PENALISERING (-)			
	TOTAL TOTAAL	**38½**	

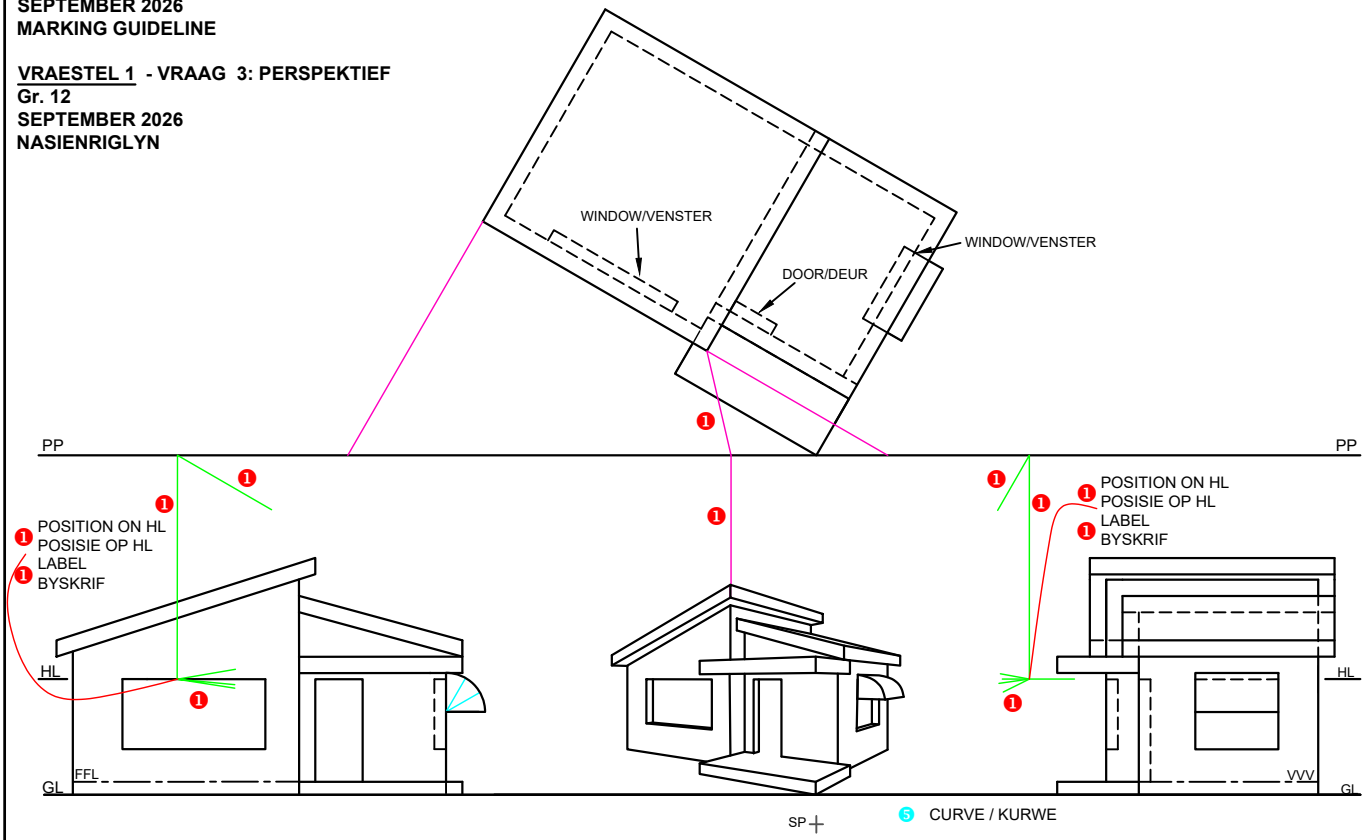
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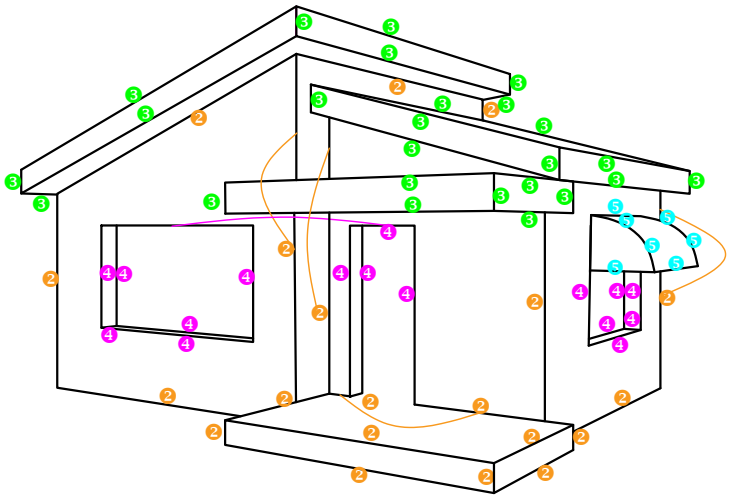
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PAPER 1 - QUESTION 3: PERSPECTIVE
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VRAESTEL 1 - VRAAG 3: PERSPEKTIEF
Gr. 12
SEPTEMBER 2026
NASIENRIGLYN

LVP





USE TO DETERMINE LVP AND RVP POSITION
GEBRUIK OM LVP EN RVP SE POSISIE TE BEPAAL

SP



ASSESSMENT CRITERIA		
1	CONSTRUCTION + VP's	6
2	WALLS + PORCH	10
3	ROOF	12
4	WINDOWS + DOOR	8
5	ARCH + CONSTRUCTION	5
	TOTAL	**41**

ASSESSERINGSKRITERIA		
1	KONSTRUKSIE + VP'te	6
2	MURE + STOEP	10
3	DAK	12
4	VENSTERS + DEUR	8
5	BOOG + KONSTRUKSIE	5
	TOTAAL	**41**

RVP

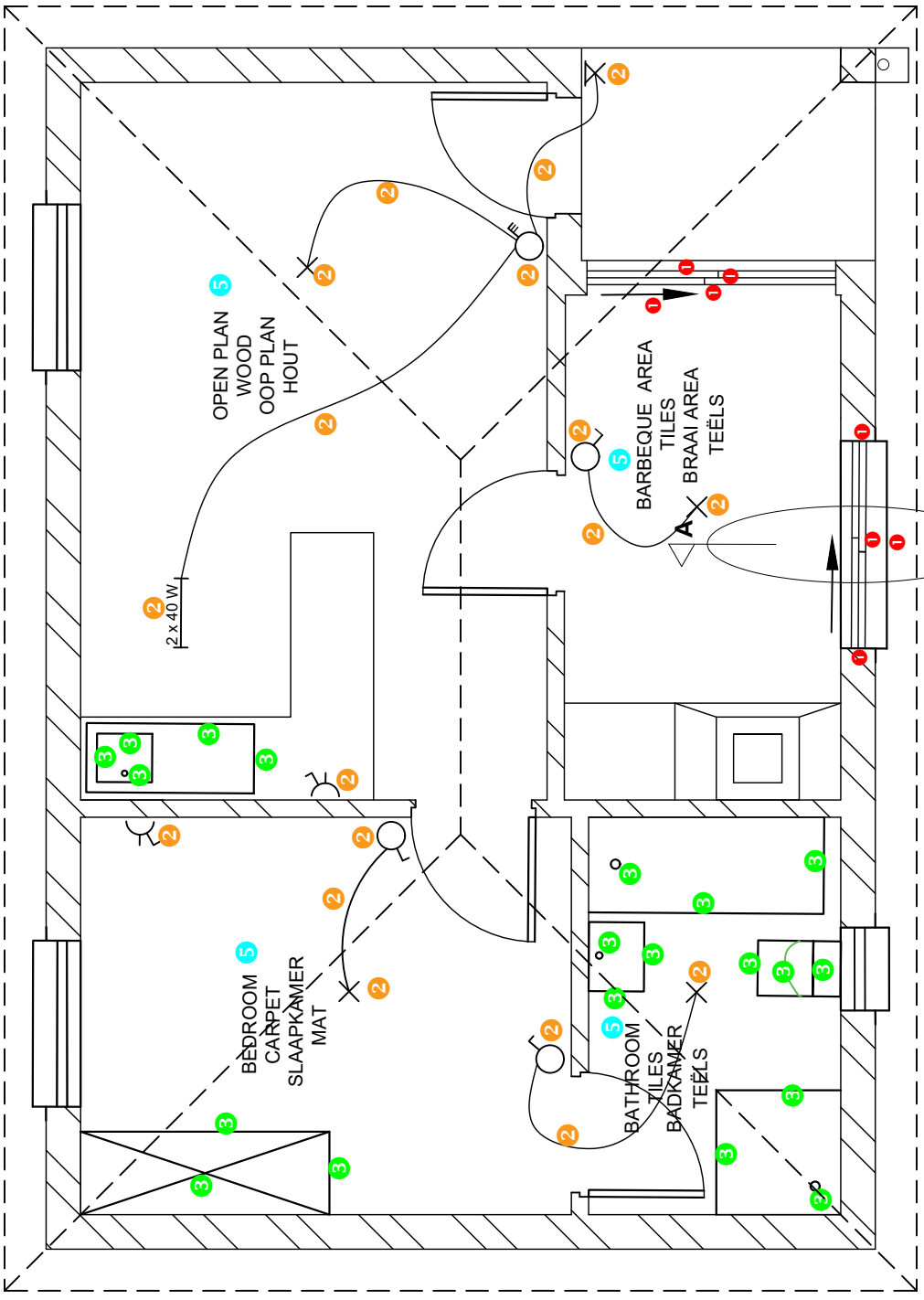
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PAPER 1 - QUESTION 4: FLOOR PLAN
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VRAESTEL 1 - VRAAG 4: VLOERPLAN
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ASSESSMENT CRITERIA	FLOOR PLAN	
1	DOORS + WINDOWS	14
2	ELECTRICAL	9
3	FIXTURES	10
4	HATCHING	3
5	LABELS	2
	SUBTOTAL	38

ASSESSERINGSKRITERIA	VLOERPLAN	
1	DEURE + VENSTERS	14
2	ELEKTRIES	9
3	TOEBEHORE	10
4	ARSERING	3
5	BYSKRIFTE	2
	SUBTOTAAL	38



FLOOR PLAN
SCALE 1 : 50
VLOERPLAN
SKAAL 1 : 50

3 X VENSTERS
3 X WINDOWS
3 X 2 = 6
DETAILS OF MARK ALLOCATION / BESONDERHEDE VAN PUNTETOEKENNING

4 X DOORS
4 X DEURE
4 X 1 = 4
DETAILS OF MARK ALLOCATION / BESONDERHEDE VAN PUNTETOEKENNING

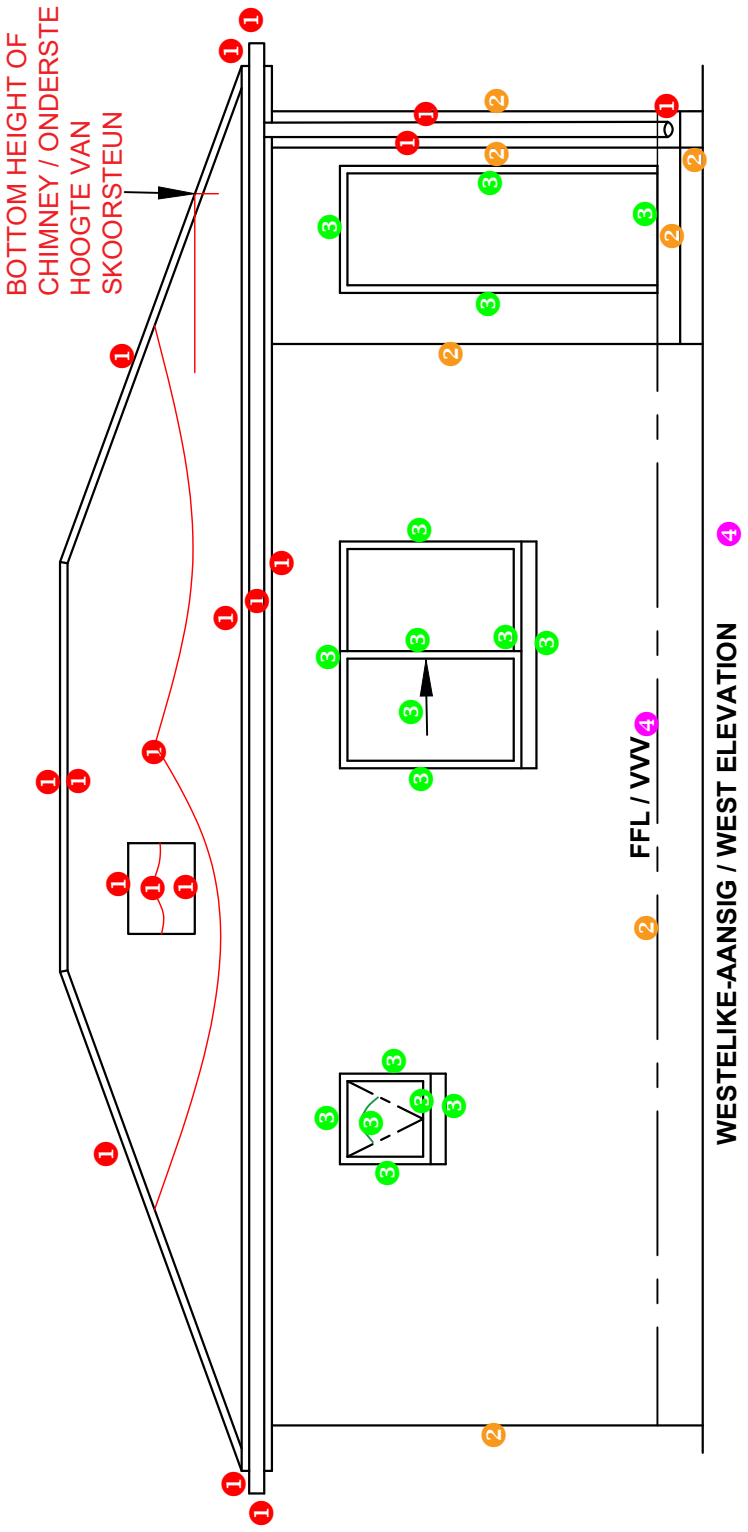
Hatching: All hatched ✓4 ✓4
SANS compliant ✓4
Instruments must be used

Arsering: Alles gearseer ✓4 ✓4
Volgens SANS riglyne ✓4
Moet instrumente gebruik

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PAPER 1 - QUESTION 4: ELEVATION
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VRAESTEL 1 - VRAAG 4: ELEVASIE
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NASIENRIGLYN



ASSESSERINGSKRITERIA	WES - AANSIG	
1	DAK + FASSIE + GEUT + VORSES	9
2	MURE + STOEP + PILAAR + VVV	$3\frac{1}{2}$
3	DEUR + VENSTER	$8\frac{1}{2}$
4	BYSKRIFTE	1
	SUBTOTAAL	**22**

ASSESSMENT CRITERIA	WEST ELEVATION	
1	ROOF + FACIA + GUTTER + COVERS	9
2	WALLS + PORCH + PILLAR + FFL	$3\frac{1}{2}$
3	DOOR + WINDOW	$8\frac{1}{2}$
4	LABELS	1
	SUBTOTAL	**22**

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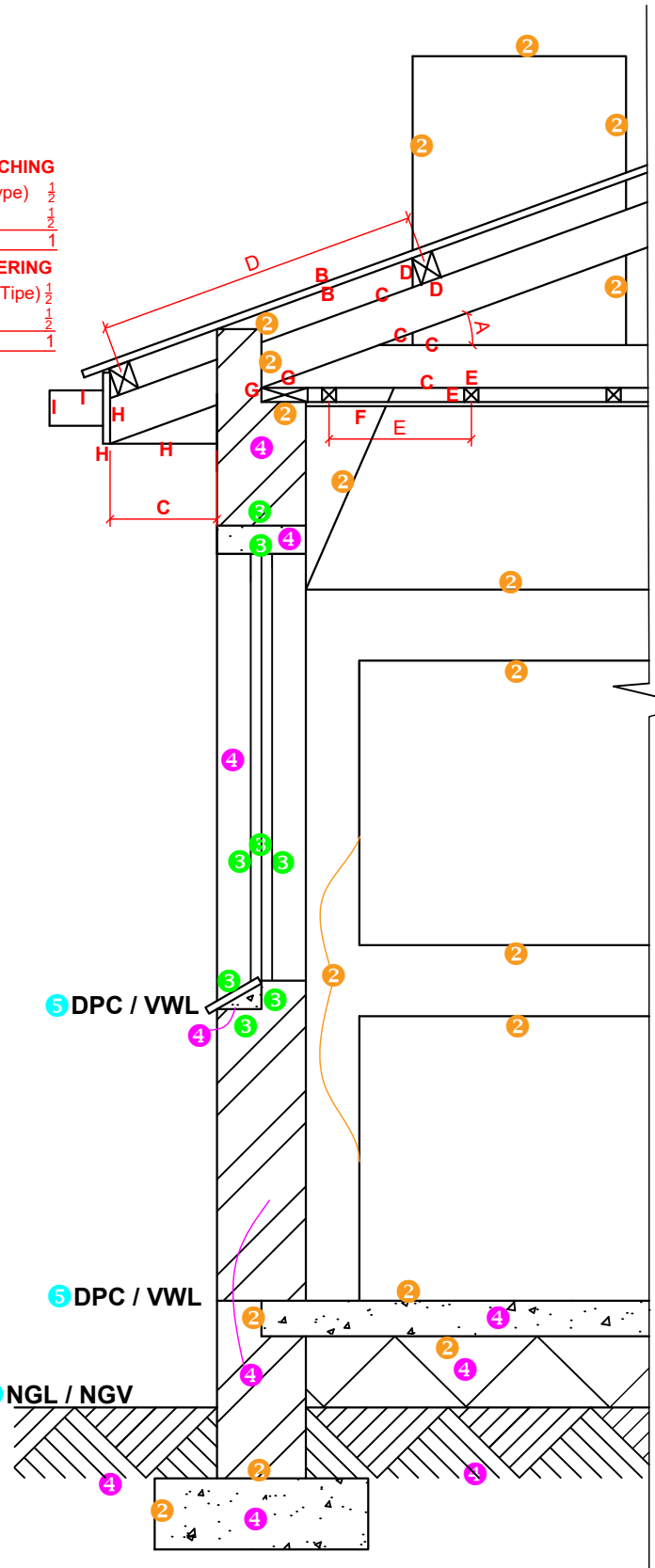
PAPER 1 - QUESTION 4: SECTION
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VRAESTEL 1 - VRAAG 4: DEURSNEE
Gr. 12
SEPTEMBER 2026
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TIMBER HATCHING
4 SANS Compliant (Type) ½
4 ALL timber hatched ½
TOTAL 1

HOUTARSERING
4 Voldoen aan SANS (Tipe) ½
4 ALLE hout gearseer ½
TOTAAL 1

5 + 1 = 6



DETAILED SECTION A-A
SCALE 1 : 20
GEDETAILLEERDE SNIT A-A
SKAAL 1 : 20

ROOF DETAIL: MARK ALLOCATION DAKBESONDERHEDE: PUNTETOEKENNING		
A	ROOF ANGLE / DAKHELLING	½
B	ROOF SHEET DAKPLAAT	1
C	ROOF TRUSS + OVERHANG / DAKKAP+ OORHANG	2½
D	PURLIN + SPACING / DAKLAT + SPASIËRING	1½
E	BRANDERING + SPACING / PLAFONLATTE + SPASIËRING	1½
F	CEILING BOARD / PLAFONBORD	½
G	WALL PLATE / MUURPLAAT	1
H	FACIA BOARD / FASSIEBORD	1½
I	GUTTER / GEUT	1
TOTAL / TOTAAL		**11**

ASSESSERINGSKRITERIA **GEDETAILLEERDE SNIT**		
1	DAKBESONDER-HEDE	11
2	FONDASIE + MURE + VLOER + BRAAI	9
3	VENSTER + LATEI	4
4	ARSERING	6
5	BYSKRIFTE	1½
SUBTOTAAL		**31½**

ASSESSMENT CRITERIA **DETAILED SECTION**		
1	ROOF DETAIL	11
2	FOUNDATIONS + WALLS + FLOOR + BARBEQUE	9
3	WINDOW + LINTEL	4
4	HATCHING	6
5	LABELS	1½
SUBTOTAL		**31½**

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